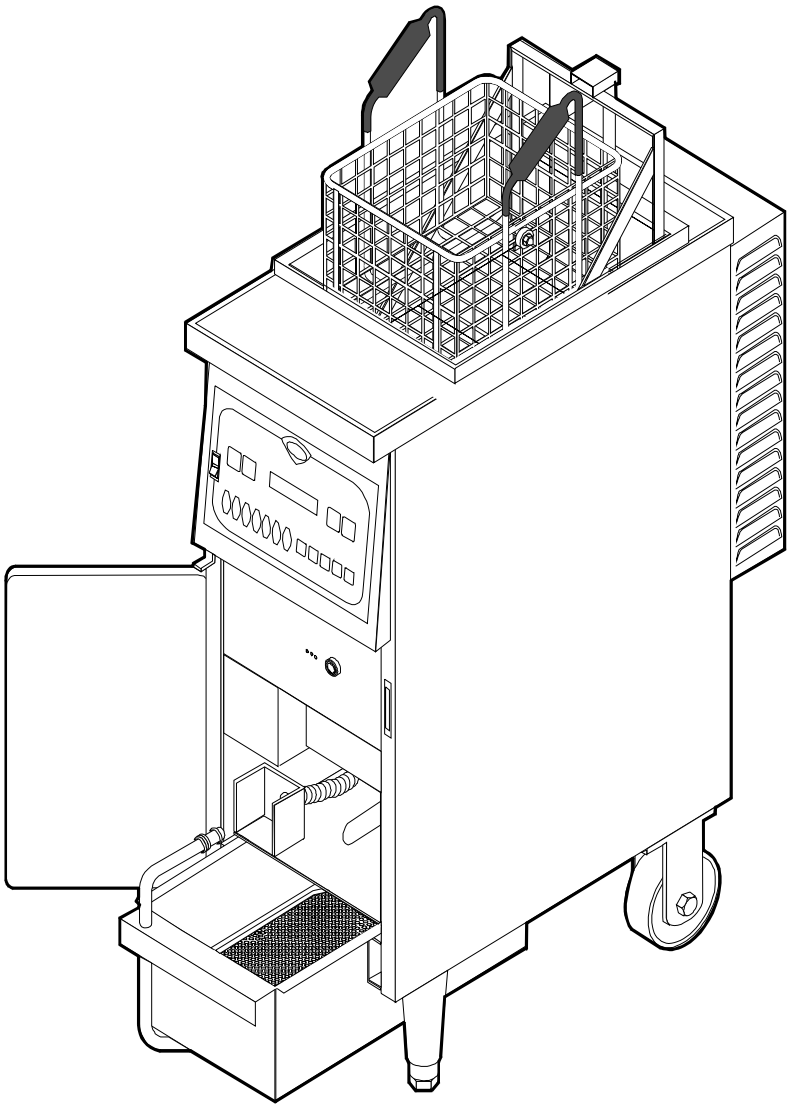
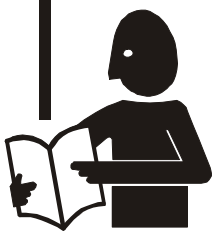
WELLS MANUFACTURING COMPANY
2 ERIK CIRCLE, P. O. Box 280
Verdi, NV 89439
Customer Service (775) 345-0444 Ext.502
fax: (775) 345-0569
www.wellsbloomfield.com



SERVICE MANUAL for ELECTRIC FRYER MODELS **WFAE-55F and WFAE-55FS**



IMPORTANT: WELLS MANUFACTURING PROPRIETARY INFORMATION. DISSEMINATION OF THIS INFORMATION TO ANYONE OTHER THAN WELLS AUTHORIZED SERVICE AGENTS IS STRICTLY PROHIBITED. TECHNICAL CONTENT OF THIS MANUAL IS DESIGNED FOR USE BY QUALIFIED PROFESSIONAL TECHNICIANS ONLY.

Part. No 503043 Rev. (-)

S362 041000 cps

SAFETY PROCEDURES

Knowledge of proper procedures is essential to the safe operation of electrically energized equipment. In accordance with generally accepted product safety labeling guidelines for potential hazards, the following signal words and symbols are used throughout this manual.

DANGER - Danger is used to indicate the presence of a hazard which will cause severe personal injury, death, or substantial property damage in the event the statement is ignored.

WARNING - Warning is used to indicate the presence of a hazard which can cause personal injury and possibly death, or major property damage, in the event the statement is ignored.

CAUTION - Caution is used to indicate the presence of a hazard which will or can cause minor personal injury, or property damage in the event the statement is ignored.

CAUTION - Used to indicate the presence of an electrical hazard which will or can cause personal injury, or property damage in the event the statement is ignored.

NOTE - Note is used to notify personnel of installation, operation or maintenance information which is important, but not hazard related.

FRYER PRECAUTIONS AND GENERAL INFORMATION

1. This fryer is intended for use to deep fry food products for human consumption. No other use is recommended or authorized by the manufacturer or its agents.

2. Service technicians must be familiar with the appliance use, limitations and associated hazards. Operating instructions and warnings must be read and understood by all operators and users.

3. Your WELLS fryer is equipped with an oil filtration system, which is designed to filter hot shortening ONLY. Water, cleaning agents or other liquids will damage the FILTER PUMP.

4. This piece of equipment is made in the USA and, except where otherwise noted, has American sizes on hardware.

5. This manual supplements the *Owners Manual* (p/n 300007) for this equipment. Refer to the Owners Manual for normal operating procedures and programming procedures.

6. Any troubleshooting guides, electrical diagrams, component views or parts lists included in this manual are intended for use by qualified service technicians only.

7. Service instructions for the *Solid Shortening Melt Option* will be covered in a future supplement.

TABLE OF CONTENTS

Safety Procedures	Inside Cover
Specifications	1
Features and Operating Controls	
WFAE-55F	2
WFAE-55FS	4
Operation	
Heating and Cooking Instructions	6
Troubleshooting Operational Problems	8
Filtering Instructions	10
Troubleshooting Filtering Problems	11
Servicing Instructions	
Cradle Lift Assembly	12
Kettle and Electrical Components	14
Filter Pump Assembly	20
Parts Breakdown (FOR GENERAL REFERENCE ONLY)	22
Wiring Diagrams	24
Service Parts List	26

GENERAL SPECIFICATIONS

DIMENSIONS

Wide	15.70”
Deep	37.38”
High (Basket Raised)	48.94”

CAPACITIES	**Lb.**	**Kg.**
Cooking Oil (Liquid Shortening Only)	55	25
Chicken (fresh) (Standard Basket)	30	13
Chicken (frozen) (Standard Basket)	25	11

ELECTRICAL

Voltage Requirement: 208 VAC, 240 VAC, (380-415 VAC Europe)

NOTE: ***3Ø OPERATION ONLY - THIS FRYER IS NOT APPROVED FOR CONVERSION TO 1Ø***

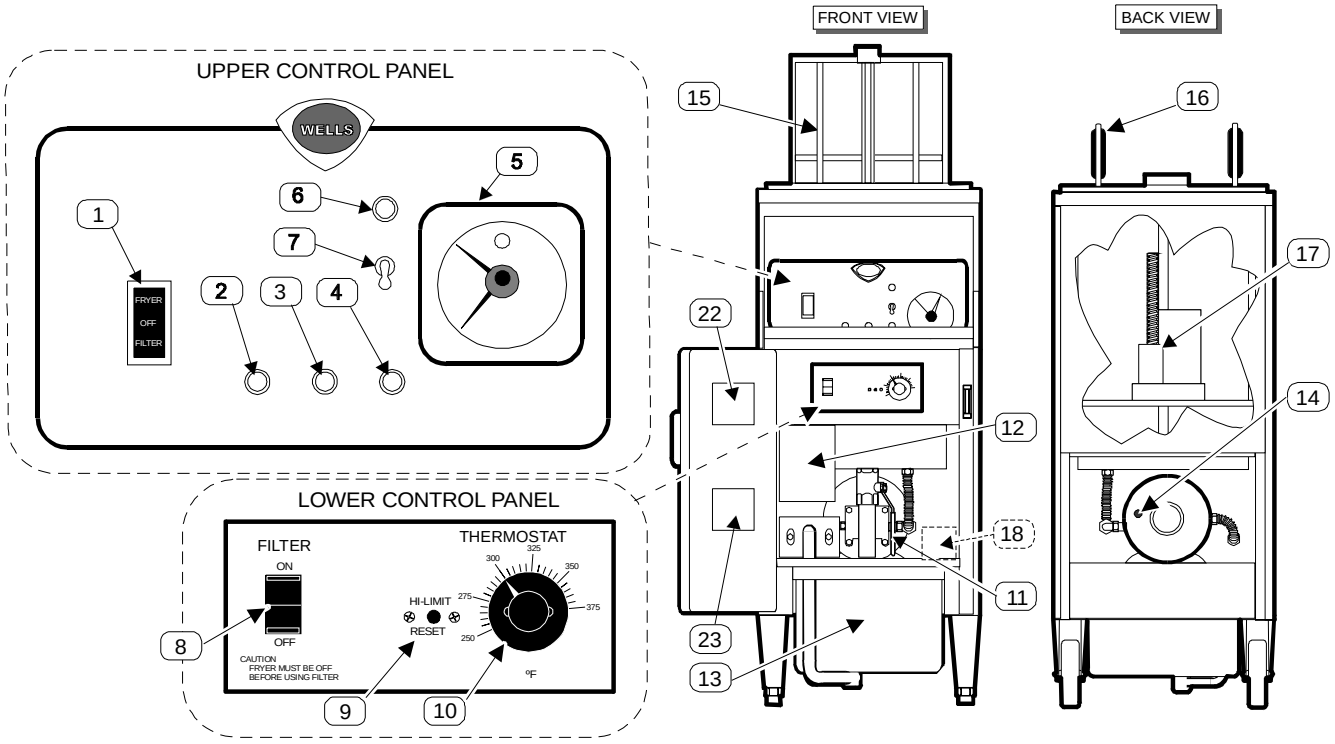
Power Consumption: 17,000 Watts

Amperage

208V 3∅	47.8 Amp per leg
240V 3∅	43.0 Amp per leg
380-415V 3∅	27.0 Amp per leg

WFAE-55F (MANUAL CONTROLS)
FEATURES and OPERATING CONTROLS

(see page 4 for SOLID STATE CONTROLLER WFAE-55FS)



1. POWER SWITCH (*FRYER-OFF-FILTER*)

   FRYER position turns *ON* the FRYER and POWER LIGHT and turns *OFF* the FILTER PUMP. Heating elements are energized and regulate to the temp. set on the CONTROL THERMOSTAT (item 10).
   OFF position turns *OFF* the FRYER and de-energizes the lower panel FILTER PUMP SWITCH (item 8).
   FILTER position energizes the lower FILTER PUMP SWITCH (item 8) and turns *OFF* the FRYER.

2. POWER LIGHT (amber)

   When lit: indicates FRYER is energized.

3. HEAT LIGHT (amber)

   When lit: indicates HEATING ELEMENT is energized. Light turns *OFF* when oil has reached temp preset on CONTROL THERMOSTAT

4. COOK LIGHT (amber)

   When lit: indicates the TIMER (item 5) is *ON* and the BASKET (item 15) is lowered.

5. TIMER

   Controls the LIFT CRADLE and the BUZZER. TIMER is started by pressing the red button in the center of the knob. When the red button is pressed the LIFT CRADLE lowers. The red pointer on the dial shows *time remaining*. When TIMER reaches “0”, BUZZER sounds and LIFT CRADLE raises.

6. BUZZER LIGHT (amber)

   When lit: indicates BUZZER SWITCH (item 7) is turned *ON* and BUZZER CIRCUIT is *active*.

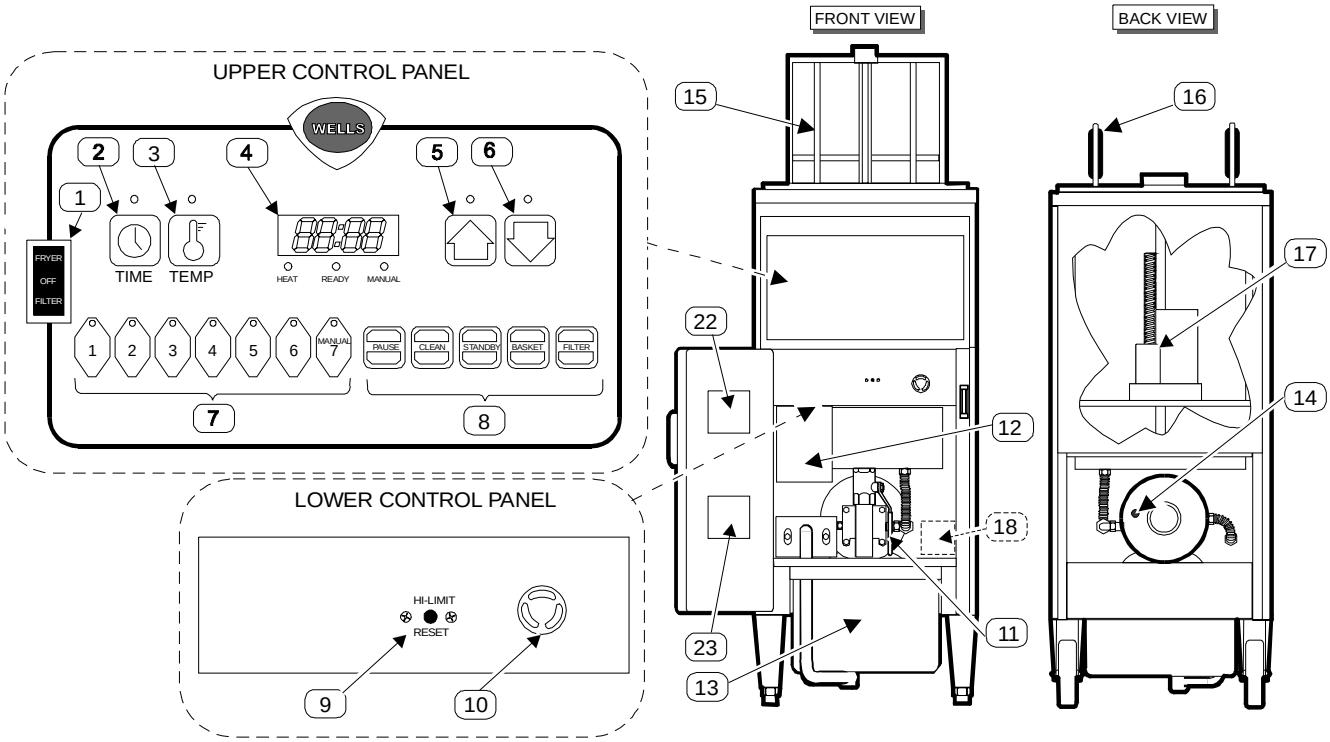
7.	BUZZER SWITCH	Activates the BUZZER CIRCUIT. When turned *ON* and TIMER has reached "0", BUZZER will sound until BUZZER SWITCH is turned *OFF* or TIMER is *activated.*
8.	FILTER PUMP SWITCH (*ON - OFF*)	Causes the oil to be filtered and pumped back into the FRYPOT. The POWER SWITCH (item 1) must be in the *FILTER* position for the FILTER PUMP SWITCH to operate.

CAUTION: FIRE HAZARD / HOT OIL

THE HI-LIMIT THERMOSTAT IS A FIRE PROTECTION DEVICE.
If tripping persists, clean the space between the hi-limit bulb and the element to enhance oil flow and to facilitate reset. Otherwise, contact your authorized Wells service agency for repairs.
DO NOT ATTEMPT TO BYPASS OR HOLD IN THE BUTTON OF THE HI-LIMIT THERMOSTAT. A FIRE WILL RESULT.

9.	HI-LIMIT THERMOSTAT	Provides over-temperature protection by de-energizing HEATING ELEMENTS if the oil temperature exceeds the factory-set limit. RESET must be performed manually. Allow the oil to cool below 300ºF (149ºC), then firmly press the red button on the LOWER CONTROL PANEL.
10.	TEMPERATURE CONTROL THERMOSTAT	Controls the oil temperature from 250ºF (121ºC) turned fully counter-clockwise, to 375ºF (191ºC) fully clockwise.
11.	DRAIN VALVE LEVER	Opens and closes the DRAIN VALVE. To OPEN, rotate the handle until it points down. To CLOSE, rotate the handle to the horizontal position.
12.	POWER OUTLET BOX	Contains the electrical service connection terminal block.
13.	OIL FILTER RESERVOIR	Holds the filter screen.
14.	FILTER PUMP MOTOR RESET BUTTON (located at the rear of the motor)	The FILTER PUMP MOTOR is equipped with an over-heating protection device. RESET must be performed manually. Allow the motor to cool for approx. 15 min., then press the red button.
15.	LIFT CRADLE	Raises and lowers FRY BASKET.
16.	FRY BASKET	Sits on the LIFT CRADLE and holds product to be cooked. Raised and lowered by the LIFT CRADLE.
17.	LIFT MOTOR	Raises / lowers LIFT CRADLE. Accessible for lubrication thru the access plate in back panel.
18.	DRIP PAN	Gathers fluids that accumulate on the top of the fryer section of Ventilator Hood models (i.e. WVAE-55F).
22.	ELECTRICAL DIAGRAM	Installation and troubleshooting (for qualified technicians).
23.	DATA PLATE	Identifies the appliance manufacturer, model and serial number; also gives electrical rating.

WFAE-55FS SOLID STATE CONTROLLER
FEATURES and OPERATING CONTROLS



1. POWER SWITCH (*FRYER-OFF-FILTER*)
   FRYER position turns *ON* the FRYER and POWER LIGHT and turns *OFF* the FILTER PUMP.
   Heating elements are energized and regulate to the temp. set on the selected MENU KEY(item 7).
   OFF position turns *OFF* the FRYER and de-energizes the lower panel FILTER PUMP SWITCH (item 8).
   FILTER position energizes the lower FILTER PUMP SWITCH (item 8) and turns *OFF* the FRYER.

2. TIME KEY — Used to check and set menu times.

3. TEMP KEY — Used to check and set menu temperatures.

4. READOUT — LED display of various data and functions.

5. UP ARROW KEY — Used to raise FRY BASKET and change program settings .

6. DOWN ARROW KEY — Used to lower FRY BASKET and change program settings .

7. MENU KEYS — Used to begin a menu time/temp cycle.
   Keys 1 thru 6 are programmable for time and temperature;
   Key 7 is available for individually set time/temp cook cycles

8. FUNCTION KEYS — Used to perform the functions of PAUSE, CLEAN, STANDBY, BASKET (raise/lower) and FILTER (warning/acknowledge)

CAUTION: FIRE HAZARD / HOT OIL

THE HI-LIMIT THERMOSTAT IS A FIRE PROTECTION DEVICE.
If tripping persists, clean the space between the hi-limit bulb and the element to enhance oil flow and to facilitate reset. Otherwise, contact your authorized Wells service agency for repairs.
DO NOT ATTEMPT TO BYPASS OR HOLD IN THE BUTTON OF THE HI-LIMIT THERMOSTAT. A FIRE WILL RESULT.

9.	HI-LIMIT THERMOSTAT	Provides over-temperature protection by de-energizing the HEATING ELEMENTS if the oil temperature exceeds the factory-set limit. RESET must be performed manually. Allow the oil to cool below 300ºF (149ºC), then press the red button on the LOWER CONTROL PANEL.
10.	SONALERT	Audible alarm to signal end of a cook cycle and other programmed functions.
11.	DRAIN VALVE LEVER	Opens and closes the DRAIN VALVE. To OPEN, rotate the handle until it points down. To CLOSE, rotate the handle to the horizontal position.
12.	POWER OUTLET BOX	Contains the electrical service connection terminal block.
13.	OIL FILTER RESERVOIR	Holds the filter screen.
14.	FILTER PUMP MOTOR RESET BUTTON (located at the rear of the motor)	The FILTER PUMP MOTOR is equipped with an over-heating protection device. RESET must be performed manually. Allow the motor to cool for approx. 15 min., then press the red button.
15.	LIFT CRADLE	Raises and lowers FRY BASKET.
16.	FRY BASKET	Sits on the LIFT CRADLE and holds product to be cooked. Raised and lowered by the LIFT CRADLE.
17.	LIFT MOTOR	Raises / lowers LIFT CRADLE. Accessible for lubrication thru access plate in back panel.
18.	DRIP PAN	Gathers fluids that accumulate on the top of the fryer section of Ventilator Hood models (i.e. WVAE-55FS).
22.	ELECTRICAL DIAGRAM	Installation and troubleshooting (for qualified technicians).
23.	DATA PLATE	Identifies the appliance manufacturer, model and serial number; also gives electrical rating.

OPERATION

HEATING INSTRUCTIONS

IMPORTANT: Never press the POWER SWITCH to FRYER unless the heating elements are covered with shortening. Except for fryers equipped with the Solid Shortening Option, use LIQUID SHORTENING only. Check shortening level marker inside the cooking basket for proper shortening level.

NOTE: Except for fryers equipped with the Solid Shortening Option, the fryer is designed to be used with LIQUID SHORTENING only. Lard and solid shortening will solidify in the filter pump, causing pump failure.

1. **WFAE-55F and WVAE-55F:**
   a. Set the TEMPERATURE CONTROL THERMOSTAT to 350º F.
   b. Press POWER SWITCH to *FRYER* position. The contactor will close and the HEATING ELEMENTS will start heating the shortening. The HEAT LIGHT will turn *ON* any time the TEMPERATURE CONTROL THERMOSTAT is calling for heat and the HEATING ELEMENTS are energized. NOTE: The first time the HEAT LIGHT goes out, the fryer is ready to begin cooking.

2. **WFAE-55FS and WVAE-55FS:**
   a. Program MENU KEY times and temperatures (see *IOM Manual*, p/n 300007).
   b. Press POWER SWITCH to *FRYER* position. The controller will energize the HEATING ELEMENTS until the shortening has reached the programmed temperature. The readout will display “PRE” and “HEAT” and the selected MENU KEY, and the HEAT indicator will be lit until the shortening has reached temperature. When the readout displays “00:00”, the fryer is ready to begin cooking.

COOKING INSTRUCTIONS

1. **LOAD PRODUCT**
   a. Load frozen product into the BASKET. Using the plastic-coated handles, set the BASKET on the LIFT CRADLE.
   b. For fresh meat product, lower the basket and hand drop the product just above the oil level to prevent splattering.

> **IMPORTANT:** Different products contain different amounts of moisture, which will cause the hot oil to foam. Determining the maximum safe load size that will prevent hazardous overflow and splatter of hot oil. This can be accomplished by starting with a small load, and gradually increasing the load size until the maximum load which can be cooked without the oil foaming over the top of the frypot is reached.

2. **WFAE-55F and WVAE-55F:**
   a. Set the TIMER for the time required to cook the particular product weight. Press the red button in the center of the TIMER. The CRADLE LIFT will lower and the TIMER will start counting-down. The COOK LIGHT will turn *ON* when the cradle is fully lowered. Turn the BUZZER SWITCH to *ON*.
   b. At the completion of the timed cycle, the TIMER will reach 0, the BUZZER will sound and the CRADLE LIFT will raise.

>
>
> The BASKET and the cooked product will be hot.
> Contact with hot cooked product can cause serious injury.

3. **WFAE-55FSand WVAE-55FS:**
   a. Press the “BASKET” KEY followed by the “DOWN ARROW” KEY. When the cradle if fully lowered, press the desired MENU KEY.
   b. At the completion of the timed cycle, the cradle will rise and the sonalert will sound.

>
>
> The BASKET and the cooked product will be hot.
> Contact with hot cooked product can cause serious injury.

4. Use the plastic-coated handles to remove the BASKET and dump the cooked product into a suitable tray or container.

TROUBLE SHOOTING - OPERATING PROBLEMS

WFAE-55F and WVAE-55F

PROBLEM	POSSIBLE CAUSE	SOLUTION
POWER LIGHT not lit (Fryer not operating)	POWER SWITCH not in *FRYER* position	Press POWER SWITCH to *FRYER* position
	Circuit breaker *OFF* or tripped	Reset circuit breaker
	Service wiring problem	Correct service wiring
(Fryer operating norm.)	POWER LIGHT defective	Replace LIGHT
HEAT LIGHT not lit (POWER LIGHT lit) (Cooking oil cold)	TEMPERATURE CONTROL THERMOSTAT set too low	Set THERMOSTAT to 350ºF
	TEMPERATURE CONTROL THERMOSTAT defective	Replace THERMOSTAT
POWER LIGHT not lit (Cooking oil cold)	HI-LIMIT THERMOSTAT TRIPPED	Allow oil to cool Reset HI-LIMIT
(Cooking oil hot)	HEAT LIGHT defective	Replace LIGHT
COOK LIGHT not lit (CRADLE LIFT raised)	TIMER not energized	Set and energize TIMER only when ready to cook
(CRADLE LIFT lowered)	COOK LIGHT defective	Replace LIGHT
BUZZER LIGHT not lit	BUZZER SWITCH in *OFF* pos.	Turn SWITCH *ON*
	BUZZER LIGHT defective	Replace LIGHT
BUZZER does not sound	BUZZER SWITCH in *OFF* pos.	Turn SWITCH *ON*
	BUZZER defective	Replace BUZZER
	BUZZER SWITCH defective	Replace SWITCH
CRADLE LIFT won't lower	TIMER not energized	Set and energize TIMER only when ready to cook
	TIMER defective	Replace TIMER
	LIFT MOTOR defective	Replace LIFT MOTOR
	MICROSWITCH misadjusted	Adjust MICROSWITCH
CRADLE LIFT won't raise	TIMER has time remaining	Allow TIMER to drop to *0*
	LIFT CRADLE not properly assembled to LIFT ROD	Install white plastic pivot over end of lift rod (see page 3)
	TIMER defective	Replace TIMER
	LIFT MOTOR defective	Replace LIFT MOTOR
	MICROSWITCH misadjusted	Adjust MICROSWITCH
	ACTUATOR or LIFT CRADLE damaged	Repair / replace damaged components

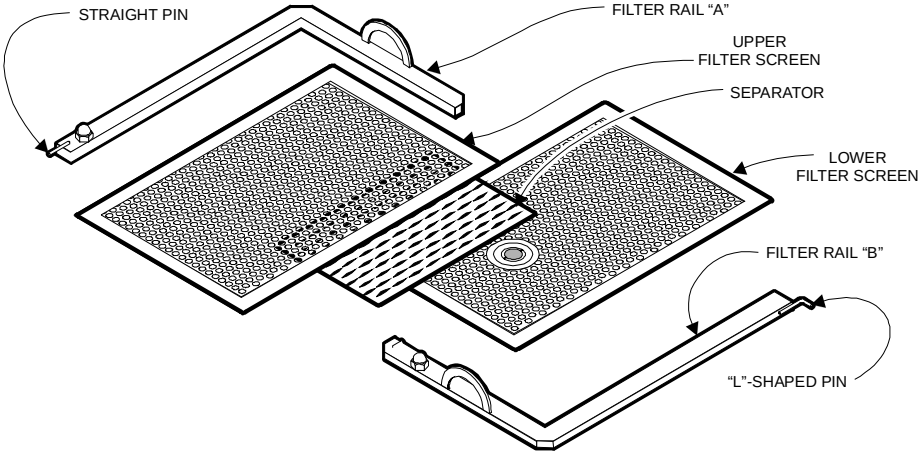
PROBLEM	POSSIBLE CAUSE	SOLUTION
READOUT not lit (Fryer not operating)	POWER SWITCH not in *FRYER* position	Press POWER SWITCH to *FRYER* position
	Circuit breaker *OFF* or tripped	Reset circuit breaker
	Service wiring problem	Correct service wiring
(Fryer operating norm.)	Controller connection faulty	Check/replace connector
	CONTROLLER defective	Replace CONTROLLER
HEAT LIGHT not lit (READOUT lit and Cooking oil cold)	Programmed temperature	Raise programmed temperature too low / select another MENU KEY
	CONTROLLER defective	Replace CONTROLLER
	HI-LIMIT THERMOSTAT TRIPPED	Allow oil to cool Reset HI-LIMIT
COOKING OIL COLD (HEAT light lit)	HEATING ELEMENT defective	Replace HEATING ELEMENT
	Wiring problem / loose connection	Correct wiring problem
	CONTROLLER defective DEFECTIVE PROBE	Replace CONTROLLER REPLACE PROBE
CRADLE LIFT won't lower	Improper key strokes	Press"BASKET" then "DOWN ARROW"
	LIFT MOTOR defective	Replace LIFT MOTOR
	DOWN RELAY defective	Replace RELAY
	Wiring problem / loose connection	Correct wiring problem
	CONTROLLER defective	Replace CONTROLLER
CRADLE LIFT won't raise	READOUT not "00:00" or "PAUSE"	Press "PAUSE" + "UP ARROW"
	LIFT MOTOR defective	Replace LIFT MOTOR
	DOWN RELAY defective	Replace RELAY
	Wiring problem / loose connection	Correct wiring problem
	CONTROLLER defective	Replace CONTROLLER
BUZZER does not sound, or is not loud enough	Buzzer programmed *OFF*	Contact factory for instructions
	BUZZER SHUTTER closed	Open SHUTTER
	BUZZER defective	Replace BUZZER
	Wiring problem / loose connection	Correct wiring problem
	CONTROLLER defective	Replace CONTROLLER
MENU KEY does not operate	MENU KEY not programmed	Program MENU KEY
	CONTROLLER defective	Replace CONTROLLER
FUNCTION KEY does not operate	Improper KEY entry	Consult owners manual for proper usage
	CONTROLLER defective	Replace CONTROLLER

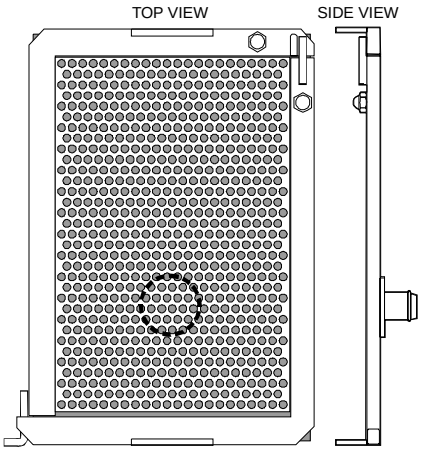
OIL FILTERING INSTRUCTIONS

DANGER

OIL MUST BE FILTERED WHILE HOT (300ºF AND HIGHER)
Contact with hot oil can cause serious injury including death.
Always wear protective clothing and insulated gloves when filtering the cooking oil.

1. Refer to the *Installation, Operation and Maintenance Manual* (p/n 300007) for complete operating instructions for the filter system. Make certain the FILTER LEAF is properly assembled and installed.





2. The cooking oil must be hot (minimum of 300º F.) in order to filter properly. Cold oil will not flow through the filter leaf. Place the POWER SWITCH to the *FILTER* position. DO NOT turn the pump *ON* for more than 10 sec. without oil flowing.

3. Open the DRAIN LEVER. The WOOD DOWEL may be needed to unplug the drain hole.

4. While draining the oil, press the POWER SWITCH to *FILTER*. Pour the FILTER POWDER into the oil at the point where it is being drawn down the drain.

5. After all the oil has drained from the FRYPOT, use the HI-TEMP BRUSH to push breading crumbs and other debris down the drain.

NOTE: use caution not to damage the two small CAPILLARY TUBES toward the front of the HEATING ELEMENT.

6. After 5 minutes of oil circulation, close the DRAIN VALVE and allow the FRYPOT to fill with the freshly filtered oil. When all the oil has returned to the FRYPOT, turn *OFF* the FILTER SWITCH. Turn the POWER SWITCH to the *OFF* position until starting to use the fryer again.

7. Allow the FILTER RESERVOIR to cool before servicing. Refer to the *IOM Manual* (p/n 300007) for complete FILTER RESERVOIR maintenance instructions.

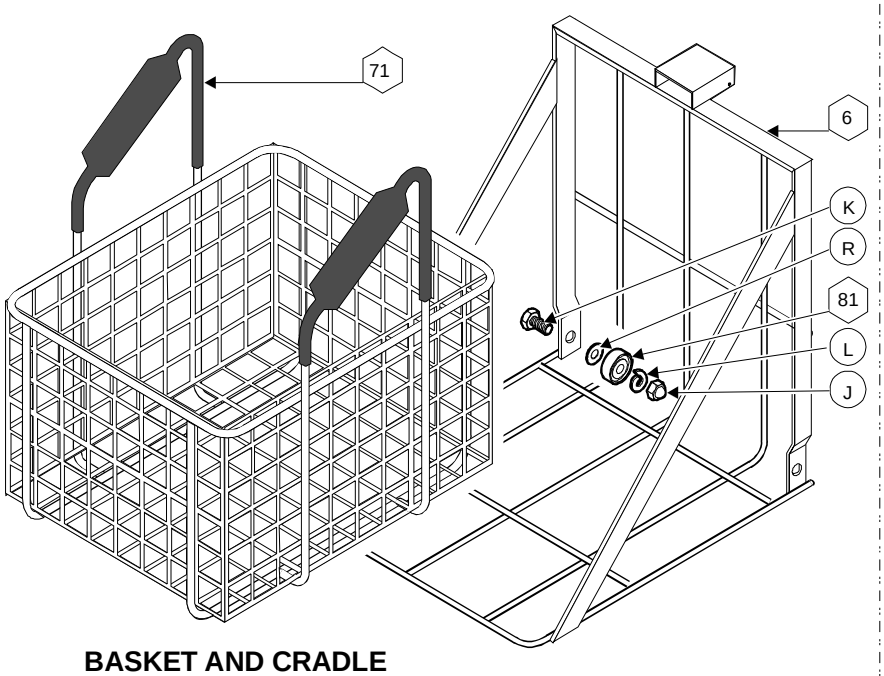
NOTE: Refrain from using soap in the FRYPOT or FILTER RESERVOIR. Soap residue will cause the cooking oil to breakdown rapidly.

TROUBLE SHOOTING - OIL FILTERING PROBLEMS

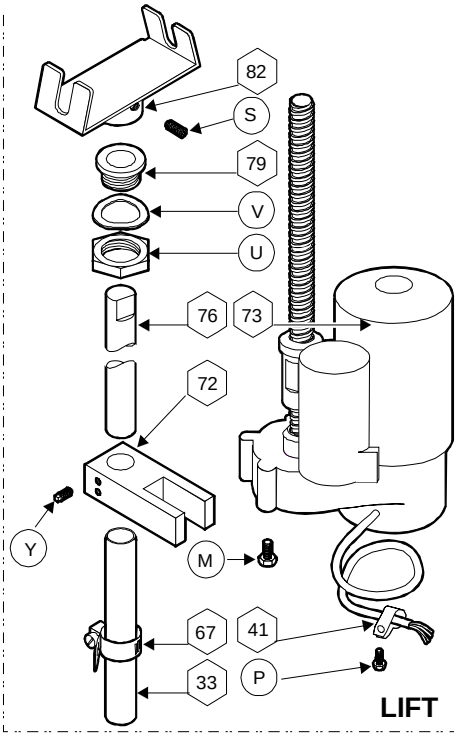
PROBLEM	POSSIBLE CAUSE	SOLUTION
FILTER PUMP won't run	POWER SWITCH not in *FILTER* position	Press POWER SWITCH to *FILTER* position
	PUMP MOTOR OVERLOAD tripped	Allow motor to cool, then press red RESET button on back of PUMP MOTOR
	Defective POWER SWITCH	Replace SWITCH
PUMP will not pump cooking oil	SUCTION TUBE not seated in SUCTION RECEPTACLE	Make sure FILTER RESER-VOIR is properly installed
	SUCTION TUBE O-RING missing or damaged	Replace O-RING with one of the three spares in groove
	Damaged SUCTION TUBE or SUCTION RECEPTACLE	Replace damaged components
	FILTER LEAF clogged	Scrape crumbs and other debris from FILTER LEAF Service FILTER RESERVOIR at next opportunity
	PUMP CHECK VALVE plugged or reversed	Clean CHECK VALVE Install CHECK VALVE properly
PUMP pumps lots of bubbles in cooking oil	SUCTION TUBE not seated in SUCTION RECEPTACLE	Make sure FILTER RESER-VOIR is properly installed
	SUCTION TUBE O-RING missing or damaged	Replace O-RING
	Insufficient oil entering or in FILTER RESERVOIR	Incrementally open DRAIN VALVE and/or clear crumbs and other debris from DRAIN
PUMP MOTOR tripped won't reset	PUMP jammed with debris	Unjam PUMP
	Defective PUMP HEAD	Replace PUMP HEAD
	Defective PUMP MOTOR	Replace MOTOR only
Oil is not being filtered completely	FILTER LEAF O-RING missing, damaged or LEAF mis-installed	Properly install FILTER LEAF
	FILTER LEAF surface clogged witth debris	AFTER OIL COOLS, remove FILTER LEAF, disassemble and clean

SERVICING INSTRUCTIONS

CRADLE LIFT ASSEMBLY



BASKET AND CRADLE



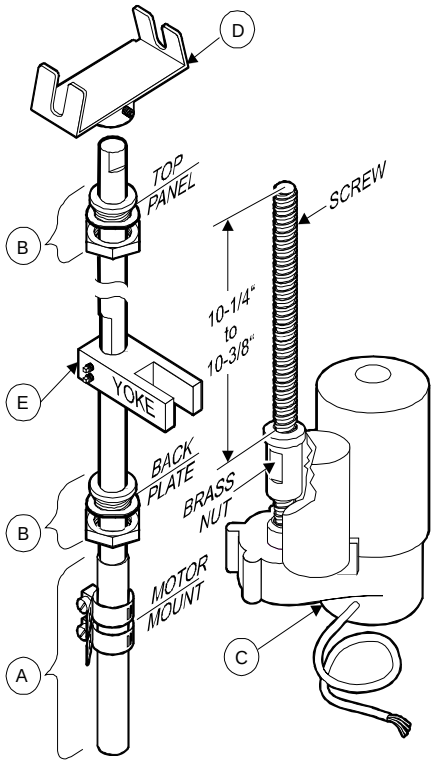
LIFT

ITEM	DESCRIPTION	SERVICE PART NO.
6	BASKET CRADLE LIFT ASSEMBLY	69961
33	GUARD, LIFT MOTOR ROD	
41	CLAMP, PLASTIC 3/8” DIA.	
67	CLAMP, HOSE	
71	BASKET, FRYER	69743
72	YOKE, ROD LIFT	69812
73	ACTUATOR, LIFT	69814
76	ROD, LIFT	
79	BUSHING, LIFT ROD	69972
81	BEARING, ROLLER .75OD x .25ID (pk6)	500031
82	CRADLE PIVOT ASSEMBLY	500037
J	NUT, ACORN 1/4-20 SS	
K	BOLT, HEX 1/4-20 x 34” SS	61048
L	LOCK WASHER 1/4” SS	
M	BOLT, HEX 1/4-20 x 1/2” SS	
P	SCREW, HEX 3-32 x 1/2”	
R	WASHER .265 ID x .50 OD SS	
S	SET SCREW, 1/4-20 x 5/16”	(part of 500037)
U	JAM NUT, 1”-14 UNF	
V	WAVE WASHER, 1”	
Y	SET SCREW, 1/4-20 x 5/8”	

LIFT MOTOR / LIFT ROD
ASSEMBLY INSTRUCTIONS

A. LIFT ROD GUARD

Assemble LIFT ROD GUARD into FRAME. The GUARD slides through holes in the MOTOR MOUNT PLATE and the bottom of the FRAME BACK PLATE, and rests on the BOTTOM PLATE of the frame. It is held in place by HOSE CLAMPS above and below the MOTOR MOUNT PLATE.



B. LIFT ROD BUSHING

1. The top bushing assembles through the TOP PANEL and FRAME. The WAVE WASHER and JAM NUT go *BELOW* top part of frame.
2. The bottom bushing assembles through the top hole in the FRAME BACK PANEL.

C. LIFT MOTOR

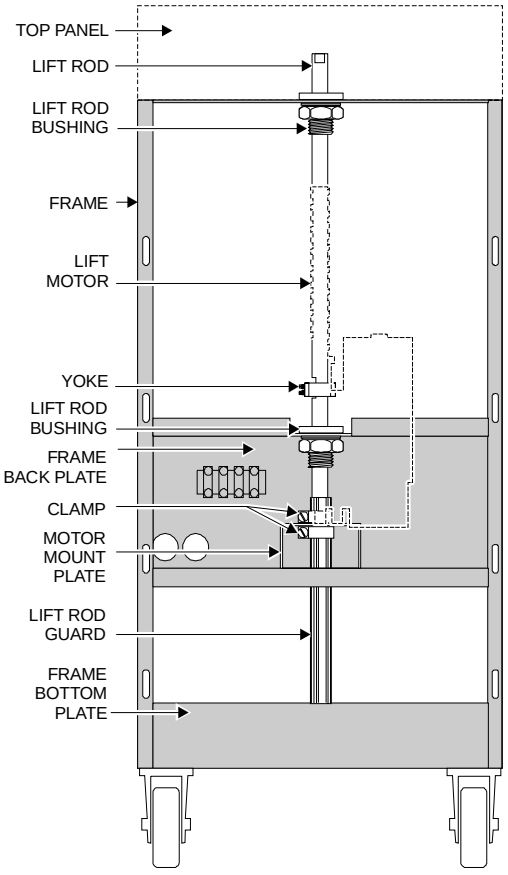
1. Apply voltage to the *BLACK* and *WHITE* wires of the motor until the screw stops turning. This is the *full-down* position. Turn the BRASS NUT until the distance from the top of the nut to the top of the screw is 10-1/4" to 10-3/8".
2. Assemble the LIFT MOTOR to the MOTOR MOUNT PLATE with four bolts and threadlock.

D. CRADLE PIVOT

Assemble the CRADLE PIVOT to the LIFT ROD. The SET SCREW on the PIVOT COLLAR must be centered on the flat on the LIFT ROD.

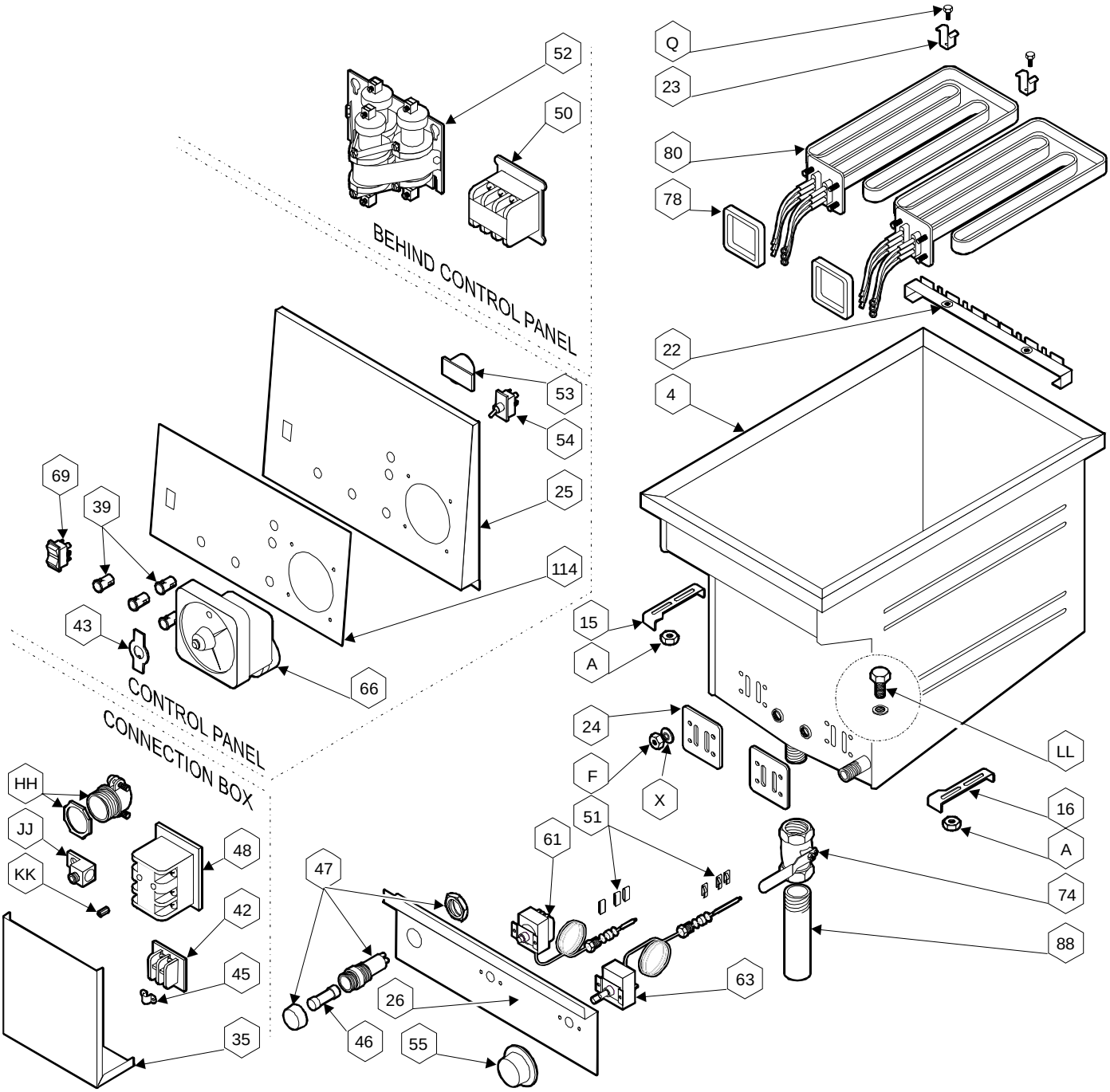
E. LIFT ROD YOKE

1. Slide the fingers of the YOKE over the flats of the BRASS NUT. The set screws must be on the side *away* from the motor.
2. Slide the PIVOT / LIFT ROD through the top BUSHING, YOKE, bottom BUSHING and LIFT ROD GUARD. The CRADLE PIVOT must be parallel to the rear portion of the TOP PANEL, with the downturned lip of the PIVOT toward the *front* of the fryer.
3. Center the YOKE on the flats of the BRASS NUT, then tighten the YOKE SET SCREWS on the *flat* on the LIFT ROD.



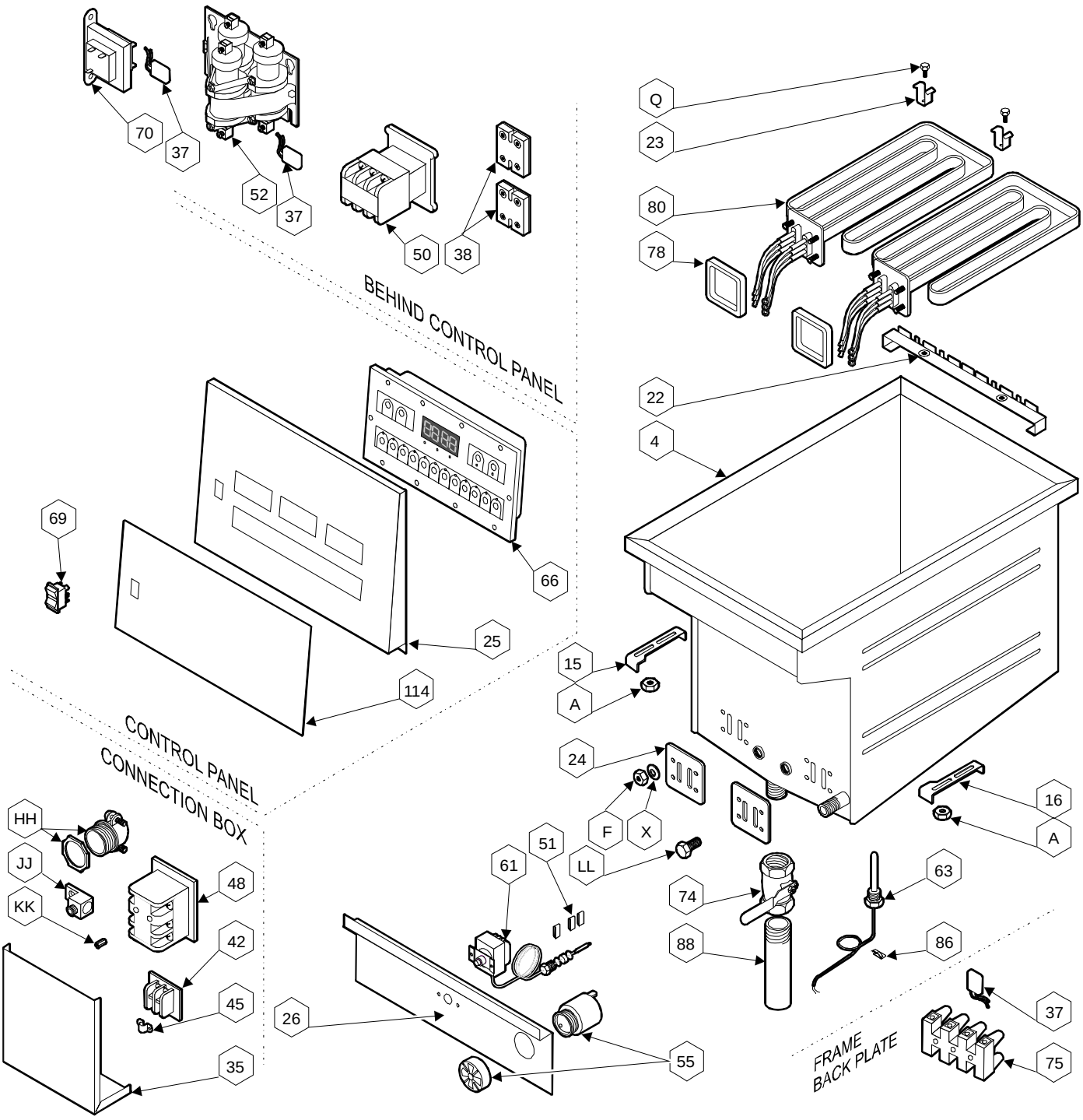
4. Apply voltage to the motor leads and carefully observe the end points of the up-and-down motion. The yoke must clear the bushings: adjust by loosening the yoke set screws and "bumping" the lift motor as required by applying voltage momentarialy to the appropriate motor leads. Tighten the set screws and re-test for proper up-and-down operation.

KETTLE AND ELECTRICAL COMPONENTS
WFAE-55F (also WVAE-55F)



ITEM	DESCRIPTION	SERVICE PART NO.
4	KETTLE ASSEMBLY	
15	KETTLE RETAINING CLIP, LEFT	
16	KETTLE RETAINING CLIP, RIGHT	
22	ELEMENT SUPPORT	
23	ELEMENT CLAMP	
24	ELEMENT BACKING PLATE	
25	CONTROL PANEL, MANUAL CONTROLS	
26	LOWER CONTROL PANEL	
35	COVER, OUTLET BOX	
39	SIGNAL LIGHT, AMBER	50516
42	TERMINAL, FLAME SENSOR	53068
43	ON-OFF PLATE	53192
45	JUMPER, FLAME SENSOR	54005
46	FUSE, SC-10 10A 300V (pk 4)	54871
47	FUSE HOLDER	54769
48	TERMINAL, 3P 85A	50131
50	CONTACTOR, 3P 240V	57780
	CONTACTOR, 3P 208V	57779
51	CLAMP, THERMO BULB SAFETY	502332
52	MERCURY RELAY, 3P 208/240V	63920
53	BUZZER, 240V	64834
54	BUZZER SWITCH	64904
55	KNOB, CONTROL	65653
61	THERMOSTAT, HI-LIMIT	502469
63	THERMOSTAT, TEMP. CONTROL	66688
66	TIMER, 40MIN 60Hz 240V	68469
69	SWITCH, DPDT *FILTER/OFF/FRYER*	69550
74	BALL VALVE, 1-1/4 NPT	69816
78	GASKET, GORTEX (kit)	66863
80	ELEMENT, 220V 8.5Kw	500448
	ELEMENT, 240V 8.5Kw	500013
	ELEMENT, 208V 8.5Kw	500009
88	NIPPLE, 1-1/4 NPT x 5.88”	
114	FACEPLATE, MANUAL CONTROL PANEL	
A	NUT, KEP, 8-32	
F	NUT, HEX 1/4-20 SS	
Q	SCREW, PAN PHL 8-32 x 1/2 SS	
X	WASHER, BELLEVILLE .261 ID	(incl. in 66863)
HH	STRAIN RELIEF	
JJ	GROUND LUG	
KK	ALUMINUM HEX NUT, 8-32 x 7/8”	
LL	SCREW	

KETTLE AND ELECTRICAL COMPONENTS
WFAE-55FS (also WVAE-55FS)



WFAE-55FS

ITEM	DESCRIPTION	SERVICE PART NO.
4	KETTLE ASSEMBLY	
15	KETTLE RETAINING CLIP, LEFT	
16	KETTLE RETAINING CLIP, RIGHT	
22	ELEMENT SUPPORT	
23	ELEMENT CLAMP	
24	ELEMENT BACKING PLATE	
25	CONTROL PANEL, SOLID STATE	
26	LOWER CONTROL PANEL	
35	COVER, OUTLET BOX	
37	SPARK QUENCHER	500688
38	RELAY, SOLID STATE	501455
42	TERMINAL, FLAME SENSOR	503068
45	JUMPER, FLAME SENSOR	54005
48	TERMINAL BLOCK, 3P 85A	500131
50	CONTACTOR, 3P 240V	57780
	CONTACTOR, 3P 208V	57779
51	CLAMP, THERMO BULB SAFETY	502322
52	MERCURY RELAY, 3P 208/240V	63920
55	SONALERT	500974
61	THERMOSTAT, HI-LIMIT	502469
63	TEMPERATURE PROBE	501465
66	SOLID STATE CONTROL MODULE	500830
69	SWITCH, DPDT *FILTER/OFF/FRYER*	69550
70	TRANSFORMER, 208/240V TO 24V	501454
74	BALL VALVE, 1-1/4 NPT	69816
75	TERMINAL STRIP	8552-18
78	GASKET, GORTEX (kit)	66863
80	ELEMENT, 220V 8.5Kw	500448
	ELEMENT, 240V 8.5Kw	500013
	ELEMENT, 208V 8.5Kw	500009
86	RETAING CLIP, TEMP. PROBE WIRING	
88	NIPPLE, 1-1/4 NPT x 5.88”	
114	FACEPLATE, SOLID STATE CONTROL	
A	NUT, KEP, 8-32	
F	NUT, HEX 1/4-20 SS	
Q	SCREW, PAN PHL 8-32 x 1/2 SS	
X	WASHER, BELLEVILLE .261 ID	(incl. in 66863)
HH	STRAIN RELIEF	
JJ	GROUND LUG	
KK	ALUMINUM HEX NUT 8-32 x 7/8”	
LL	SCREW	

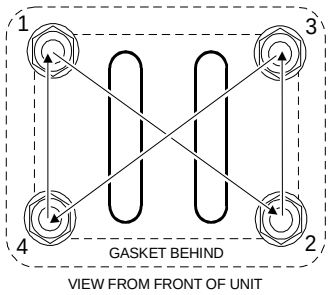
1/4" ("Gortex") GASKET INSTALLATION PROCEDURE

CAUTION: Exposed electrical circuits.
Disconnect electrical power before attempting to replace heating elements or thermostats.

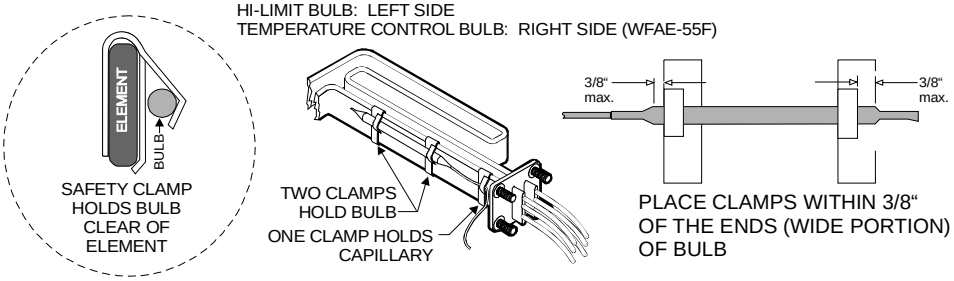
The drawings below show top view of the Gortex Gasket and Belleville Washer installation and nut tightening sequence.

STEP 1. Install the 1/4" Gortex gasket (p/n 66864) over the element studs. DO NOT USE RTV!
Insert the element through the frypot, element and gasket on the inside of the frypot, and studs through the appropriate holes.
STEP 2. Install four 1/4" Belleville washers with the high center away from the frypot, as shown (4 places).
STEP 3. Install four nuts finger tight.
STEP 4. Using a torque wrench, tighten all four nuts 1/2 turn at a time. Working in a cross pattern, tightening each nut in sequence until a uniform reading of 70 inch-pounds is achieved on all four nuts.
STEP 5. Wait 2 minutes and re-torque all four nuts to 70 inch-pounds.
STEP 6. Wait an additional two minutes and re-torque all four nuts to a uniform 70 inch-pounds.

TOP VIEW



THERMOBULB / CAPILLARY INSTALLATION

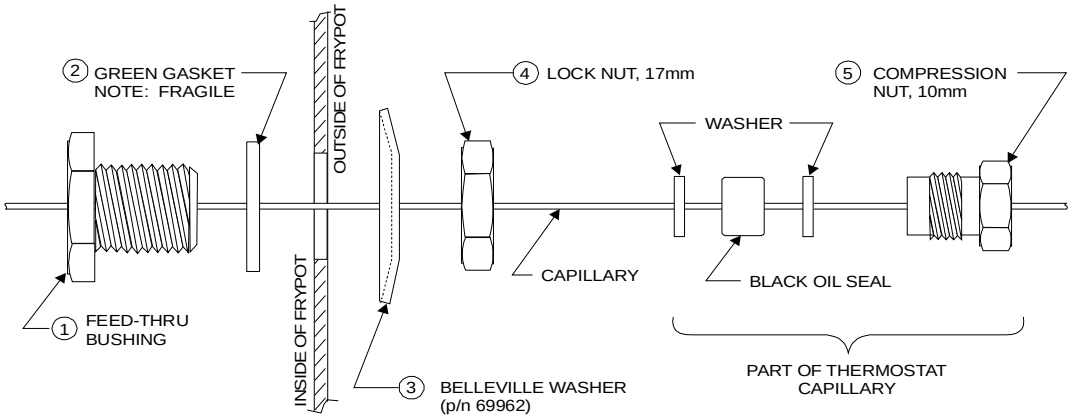

HI-LIMIT BULB: LEFT SIDE
TEMPERATURE CONTROL BULB: RIGHT SIDE (WFAE-55F)
ELEMENT
BULB
SAFETY CLAMP HOLDS BULB CLEAR OF ELEMENT
TWO CLAMPS HOLD BULB
ONE CLAMP HOLDS CAPILLARY
3/8" max.
3/8" max.
PLACE CLAMPS WITHIN 3/8" OF THE ENDS (WIDE PORTION) OF BULB

1. Insert the feed-thru bushing through the green gasket, and insert both through the frypot wall. Slidethe Belleville washer over the protruding threads of the bushing, with the high center of the washer *away* from the frypot. Thread the locknut onto the bushing and tighten. Torque the lock nut to 30 inch pounds.
Please Note: The 17mm. hex head feed thru bushing pictured at the left of the drawing ***MUST NOT*** be rotated during the assembly procedure. Always support the bushing with a box wrench while tightening the assembly to avoid damage to the green gasket!

.

2. Slip the bulb of the capillary tube through the bushing. Mount the bulb to the center portion of the element with safety clamps, positioning the clamps within 3/8" of the ends of the widest part of the bulb. Route the capillary tube alongside of the element, but out of the way of cleaning brushes, etc. Secure the capillary tube near the frypot end of the element with a safety clamp.

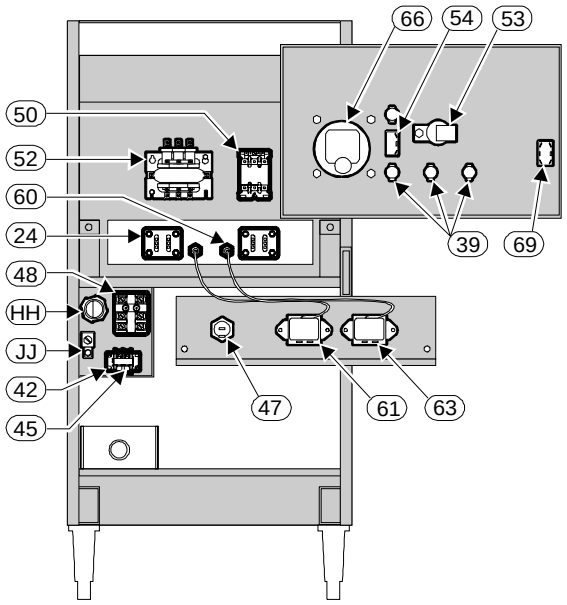
3. Seat the washers and oil seal into the bushing. Insert the compresson nut into the bushing, and torque to 30 - 40 inch pounds.
NOTE: Use care to not twist or kink the capillary



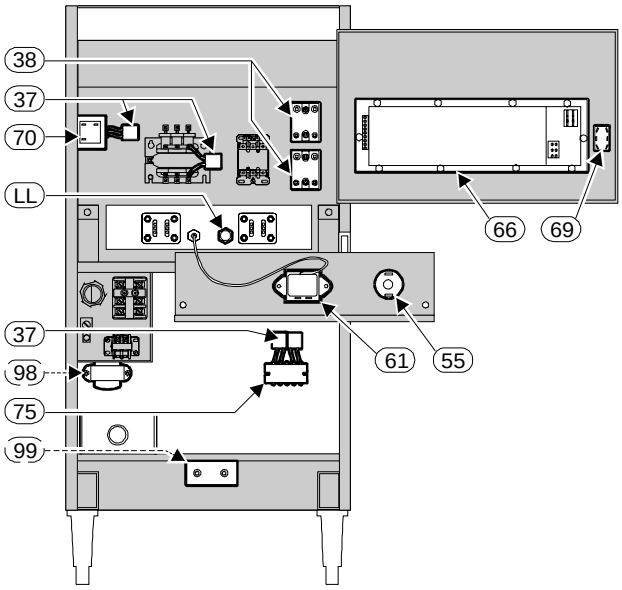
LOWER CONTROL BOX
(Located behind Lower Control Panel)

CAUTION: Exposed electrical circuits
Disconnect electrical power before opening TERMINAL BLOCK COVER
LOWER CONTROL PANEL or MAIN CONTROL PANEL.

WFAE-55F and WVAE-55F
(-55FS FRYERS SIMILAR)



COMPONENTS SPECIFIC TO
WFAE-55FS and WVAE-55FS



FIELD WIRING INSTALLATION AND INSPECTION INSTRUCTIONS

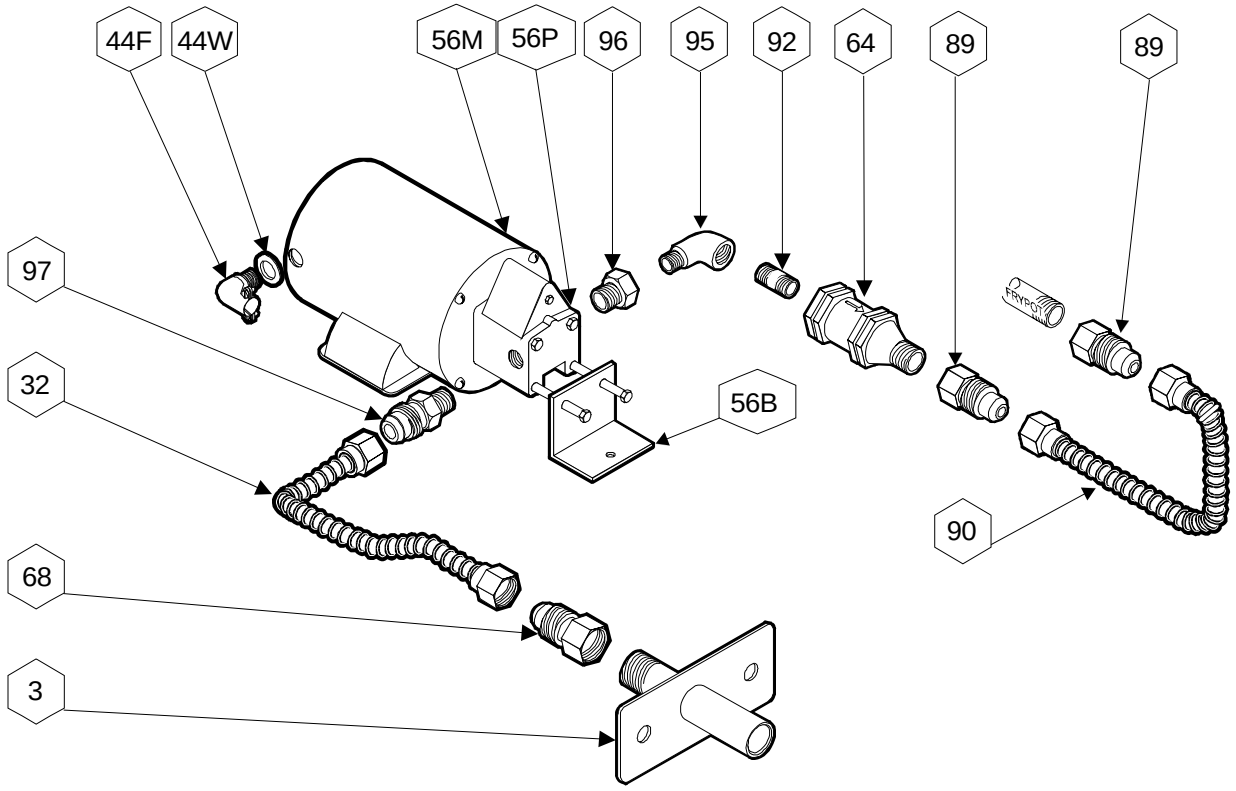
1. Remove TERMINAL BLOCK COVER marked *REMOVE THIS COVER FOR TERMINAL BLOCK*.

2. Supply wires must be attached to the TERMINAL BLOCK terminals marked L1, L2, and L3.
   Green GROUND wire must be attached to the GROUND LUG marked “ ”.

3. Supply wires must be routed and secured away from the FRYPOT, FILTER MOTOR and tubing/plumbing.

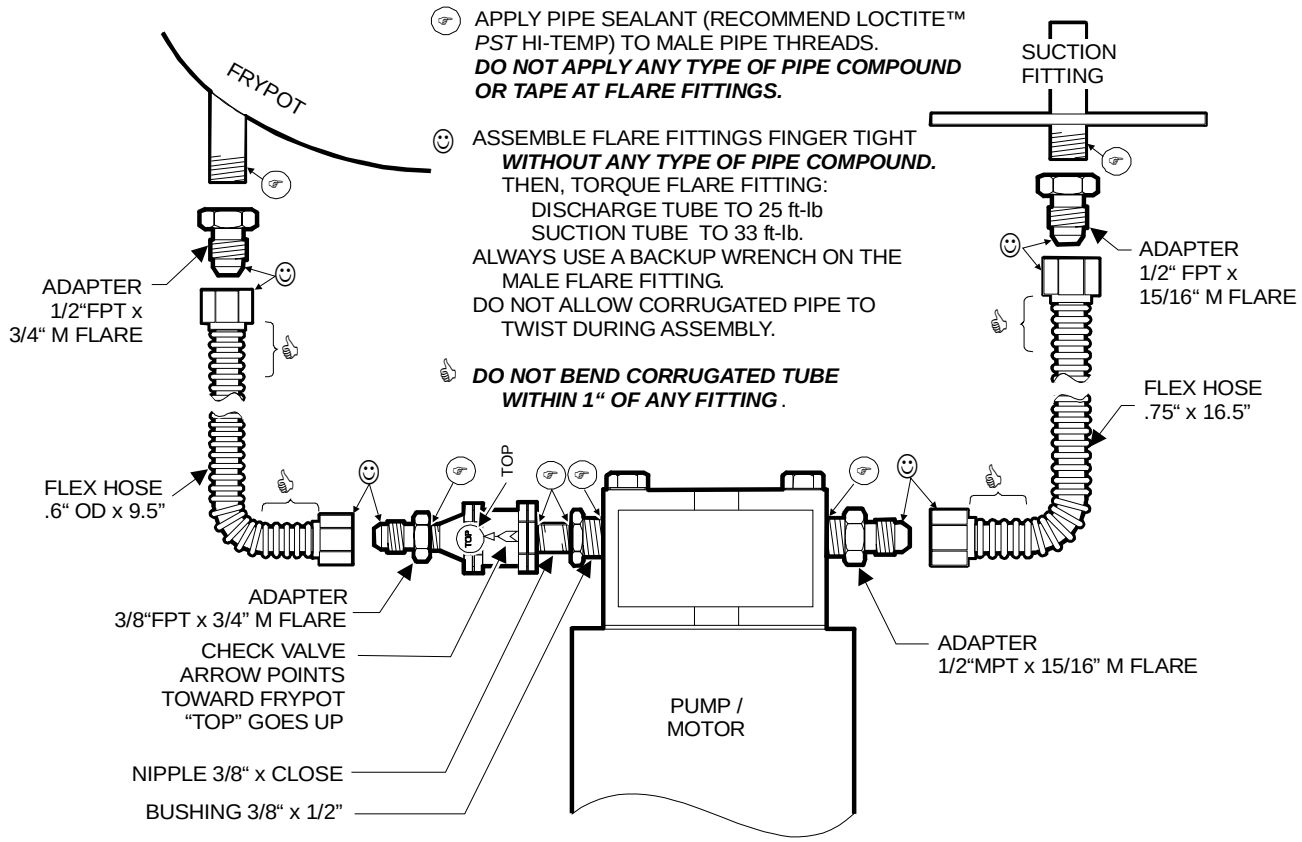
4. Replace all covers and panels when the installation is completed.

FILTER PUMP ASSEMBLY



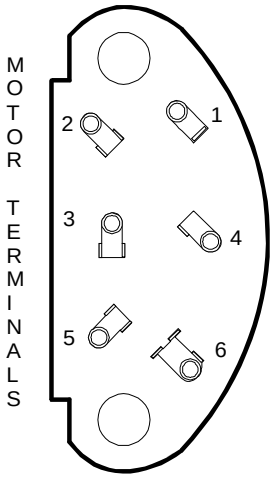
ITEM	DESCRIPTION	SERVICE PART NO.
3	SUCTION LINE FITTING	66720
32	FLEX LINE, SUCTION SS 3/4” OD x 16.5”	502287
44F	FITTING, FLEX CONDUIT 3/8” x 90º	
44W	FIBER WASHER	50177
56B	BRACKET, MOTOR STABILIZING	
56M	MOTOR, FILT 1P 125/230V 50/60	501205
56P	PUMP, FILTER	501231
64	CHECK VALVE	66692
68	ADAPTER 1/2” NPT FEMALE x 15/16M FLARE	
89	ADAPTER, 3/8” FPT FEMALE x 3/4M FLARE	
90	FLEX LINE, PRESSURE SS .6” OD x 13.5”	502283
97	ADAPTER 1/2” NPT MALE x 15/16M FLARE	
96	BUSHING, REDUCER 1/2” NPT x 3/8” NPT	
92	NIPPLE, 3/8” x CLOSE	
95	FITTING, 3/8” NPT 90º STREET ELL	

FILTER PUMP / MOTOR ASSEMBLY INSTRUCTIONS


APPLY PIPE SEALANT (RECOMMEND LOCTITE™ *PST* HI-TEMP) TO MALE PIPE THREADS. ***DO NOT APPLY ANY TYPE OF PIPE COMPOUND OR TAPE AT FLARE FITTINGS.***
ASSEMBLE FLARE FITTINGS FINGER TIGHT ***WITHOUT ANY TYPE OF PIPE COMPOUND.*** THEN, TORQUE FLARE FITTING: DISCHARGE TUBE TO 25 ft-lb SUCTION TUBE TO 33 ft-lb.
ALWAYS USE A BACKUP WRENCH ON THE MALE FLARE FITTING.
DO NOT ALLOW CORRUGATED PIPE TO TWIST DURING ASSEMBLY.
DO NOT BEND CORRUGATED TUBE WITHIN 1" OF ANY FITTING.
FRYPOT
SUCTION FITTING
ADAPTER 1/2"FPT x 3/4" M FLARE
ADAPTER 1/2" FPT x 15/16" M FLARE
FLEX HOSE .75" x 16.5"
FLEX HOSE .6" OD x 9.5"
TOP
ADAPTER 3/8"FPT x 3/4" M FLARE
CHECK VALVE ARROW POINTS TOWARD FRYPOT "TOP" GOES UP
NIPPLE 3/8" x CLOSE
BUSHING 3/8" x 1/2"
PUMP / MOTOR
ADAPTER 1/2"MPT x 15/16" M FLARE

CAUTION: New style motor is a dual voltage rated unit, and must be field wired to match the electrical service supply voltage. Motor may be shipped wired for either 230V or 125V. Verify the supply voltage and the motor voltage configuration. If necessary, rewire motor, at the terminal block in the end of the motor, per the table shown below. Also, see diagram on motor.

WARNING: Failure to correctly wire the motor will result in permanent damage to the pump motor.

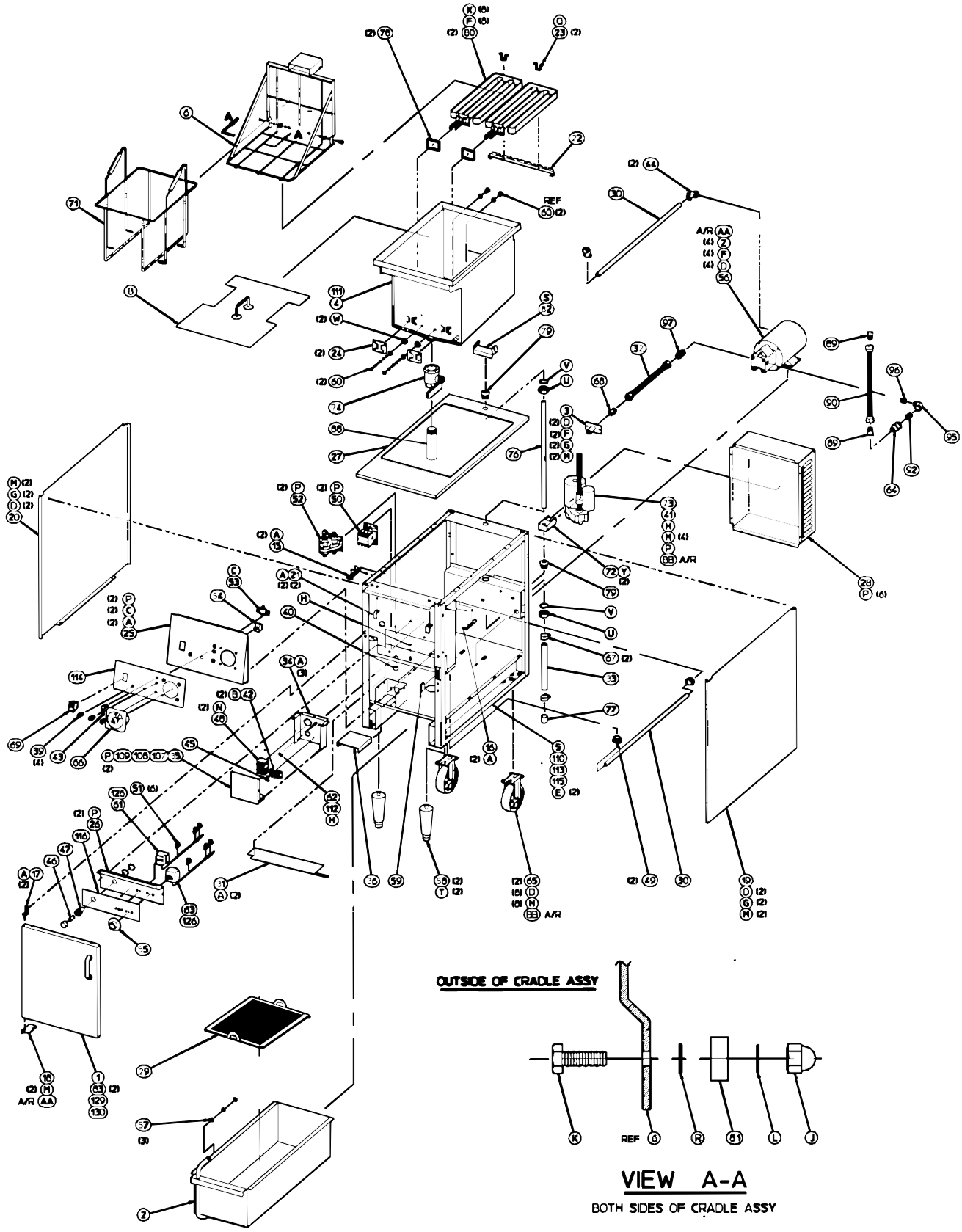


125V		230V	
1 (LINE)	YELLOW / BLACK	1(LINE)	YELLOW / BLACK
2	BLUE BLUE	2	BLUE BLUE
3	(UNUSED)	3	BROWN
4	BLACK	4	BLACK
5	BROWN ORANGE	5	WHITE ORANGE
6 (LINE)	WHITE YELLOW	6 (LINE)	YELLOW

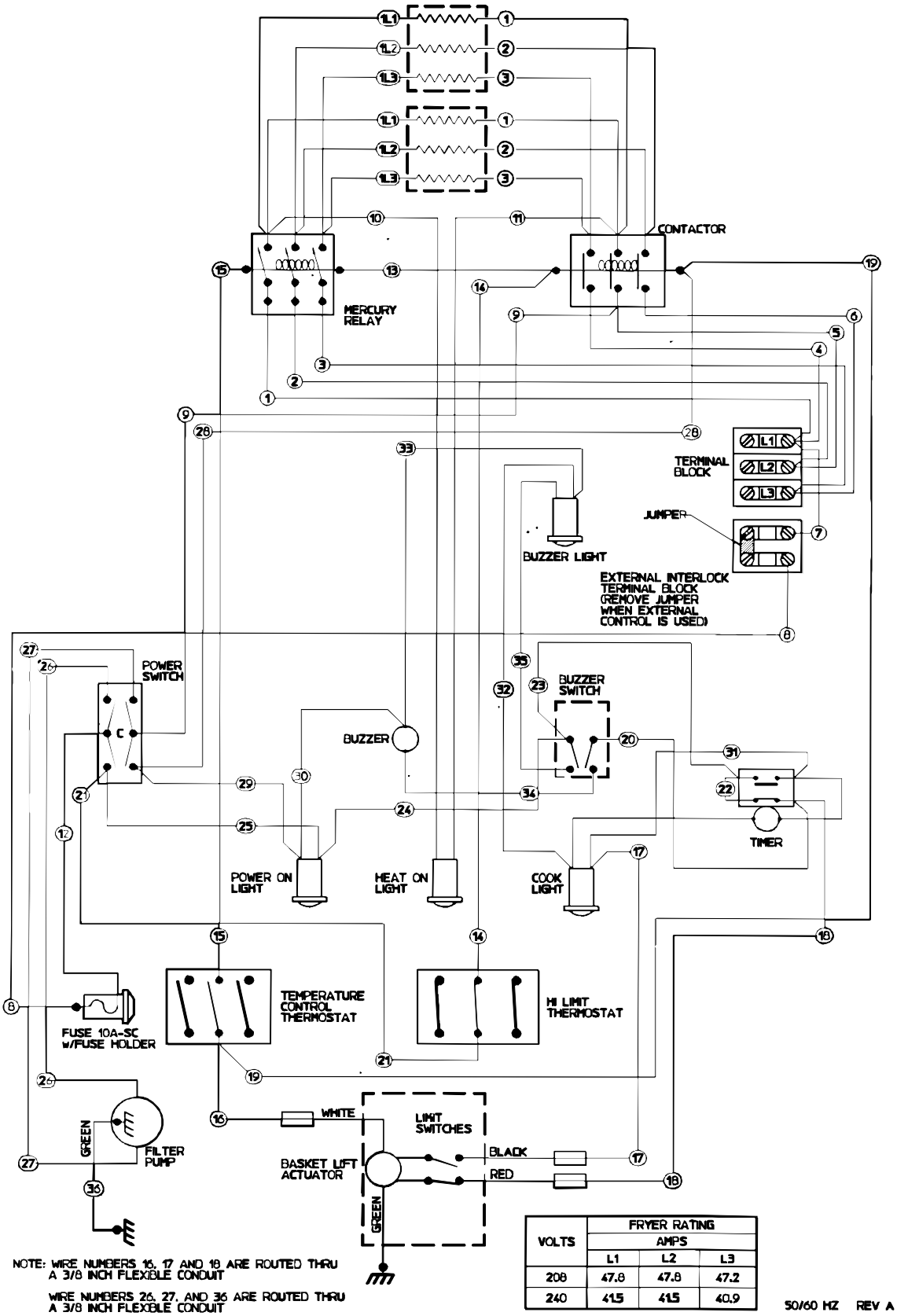
WFAE-55F PARTS BREAKDOWN (GENERAL REFERENCE ONLY)

ITEM	DESCRIPTION
1	DOOR ASSY
2	RESERVOIR ASSY
3	SUCTION LINE FITTING ASSY
4	KETTLE ASSY
5	FRAME ASSY
6	CRADLE LIFT ASSY
8	KETTLE COVER ASSY
15	KETTLE RETAINING CLIP, LEFT
16	KETTLE RETAINING CLIP, RIGHT
17	HINGE BRACKET, DOOR, TOP
18	HINGE BRACKET, DOOR, BOTTOM
19	SIDE PANEL, RIGHT
20	SIDE PANEL, LEFT
21	CLIP, CONTROL BOX
22	SUPPORT, ELEMENT
23	CLAMP, ELEMENT
24	BACKING PLATE, ELEMENT
25	CONTROL PANEL W/BUZZER
26	PANEL, HI-LIMIT/THERMOSTAT
27	TOP PANEL
29	FILTER LEAF
32	HOSE ASSY, ¾”x13.5” LG SS
33	GUARD, LIFT MOTOR ROD
34	OUTLET BOX
35	COVER, OUTLET BOX
36	COVER, SUCTION LINE BRACKET
39	SIGNAL LIGHT, AMBER
40	GROMMET, INSULATION 7/8”
41	CABLE CLAMP, PLASTIC 3/8” DIA.
42	TERMINAL, FLAME SENSOR
43	PANEL, ON/OFF SWITCH
44	FITTING, CONDUIT, 90º x 3/8”
45	JUMPER, FLAME SENSOR
46	FUSE, SC-10, 10A 300V
47	FUSE HOLDER, HPG-EE 10A
48	TERMINAL BLOCK, 3P 85A
50	CONTACTOR, 3P
51	SAFETY CLAMP, THERMOBULB
52	MERCURY RELAY, 3P
53	BUZZER, 240V
54	SWITCH, TOGGLE W/SEAL
55	KNOB, CONTROL
56	FILTER MOTOR, 1P 230V
57	O-RING, .50ID x .63OD
58	LEG, ADJUSTABLE
59	MAGNET, DOOR
60	KIT, CAPILLARY FEEDTHRU
61	THERMOSTAT, HI-LIMIT
62	LUG, GROUND
63	THERMOSTAT, TEMP CONTROL
64	CHECK VALVE
65	CASTER, RIGID, 5”
66	TIMER, 40 MIN 60Hz 240V
67	CLAMP, HOSE
68	ADAPTER, ½”FTP x 15/16M FLARE
69	SWITCH, ROCKER, POWER
71	FRYER BASKET
72	YOKE, ROD, LIFT MOTOR
73	LINEAR ACTUATOR, 1/10HP 240V
74	BALL VALVE, 1-1/4” NPT
76	ROD, LIFT MOTOR
78	GASKET, ELEMENT, GORTEX
79	BUSHING, LIFT ROD
80	ELEMENT, 8.5Kw
81	BEARING, ROLLER, .75OD x .25ID
82	CRADLE PIVOT ASSY
83	PROTECTIVE COVER, 5”x7”
88	NIPPLE, 1-1/4” NPT x 5.88” BI
89	ADAPTER, 3/8”FPT x ¾”M FLARE
90	HOSE ASSY, .6” OD x 13.5” LG SS
92	NIPPLE, 3/8” NPT x CLOSE
95	FITING, 3/8” NPT STREET ELL 90º
96	REDUCER, 1/2x3/8 NPT
97	ADAPTER, ½”MPT x 15/16” M FLARE
A	NUT, KEP 8-32 Zi
F	NUT, HEX ¼-20 SS
H	NUT, TENZ 8-32, GREEN
J	NUT, ACORN, ¼-20 SS
K	BOLT, HEX, ¼-20 x 3/4” SS
M	BOLT, HEX, ¼-20 x ½” SS
P	SCREW, HEX, 8-32 x ½”
Q	SCREW, PAN PHL, 8-32 x ½” SS
R	WASHER, .265 ID x .50 ID SS
S	SET SCREW ¼-20 x 5/16”
U	NUT, JAM, 1”-14 NF
V	WAVE WASHER, 1”
W	BELLEVILLE WASHER, .504 ID
X	BELLEVILLE WASHER, .261 ID
Y	SET SCREW, SQUARE HEAD, 1/4-20 X 5/8”

WFAE-55F PARTS BREAKDOWN (GENERAL REFERENCE ONLY)



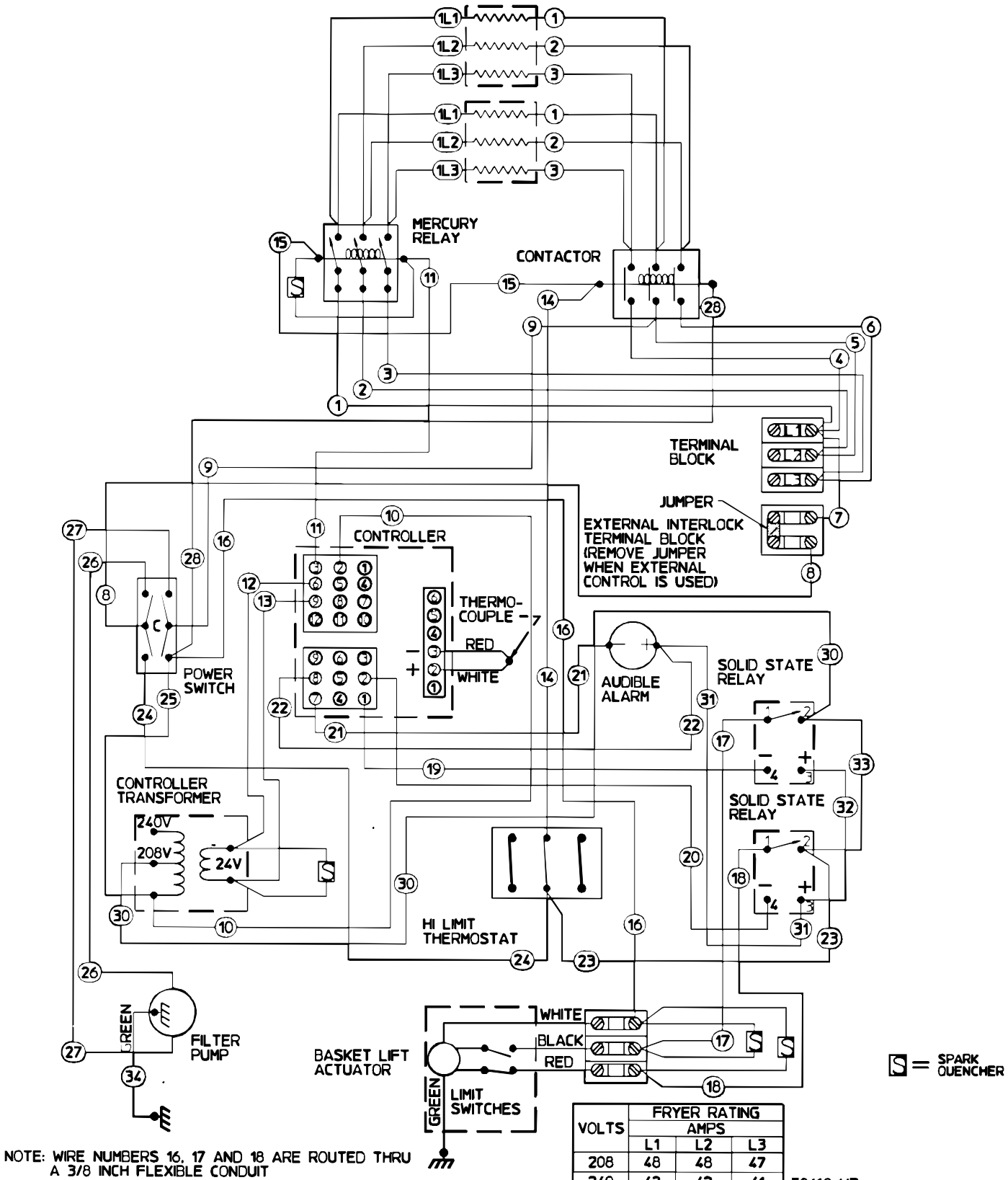
WFAE-55F WIRING DIAGRAM



VOLTS	FRYER RATING AMPS		
	L1	L2	L3
208	47.8	47.8	47.2
240	41.5	41.5	40.9

50/60 HZ REV A P/N 49938

WFAE-55FS WIRING DIAGRAM



VOLTS	FRYER RATING AMPS		
	L1	L2	L3
208	48	48	47
240	42	42	41

50/60 HZ

NOTE: WIRE NUMBERS 16, 17 AND 18 ARE ROUTED THRU A 3/8 INCH FLEXIBLE CONDUIT

WIRE NUMBERS 26, 27, AND 34 ARE ROUTED THRU A 3/8 INCH FLEXIBLE CONDUIT

REV. P/N 301724

SERVICE PARTS LIST

IMPORTANT: Use only factory authorized service parts and replacement filters.

For a complete listing of service parts for this fryer, consult **Service Parts List AS025**.

FRYER ACCESSORIES	**PART#**
BRUSH, HEATING ELEMENT CLEANING	21647
FLAVOR SAVER OIL FILTER POWDER (45 pk)	22410
WAOC-1 MOBILE OIL DISPOSAL CADDY	22470
PADDLE, STIRRING CHICKEN	22515
BRUSH, FRYPOT CLEANING	22516
FILTER LEAF ASSEMBLY	501847
STAINLESS STEEL SHOVEL	501901
BASKET	69743
DOWEL, CLEANING	69752
CRADLE, LIFT BASKET	69961

NORMAL MAINTENANCE ITEMS	**PART #**
LUBE, MOLYDISULFIDE	(LOCAL PURCHASE)
“O” RING, FILTER LEAF	501900
“O” RING, SUCTION TUBE	66474

COMMON REPAIR ITEMS	**PART #**
CONTROLLER, SOLID STATE	500830
ELEMENT, 208V 8.5Kw	500009
ELEMENT, 240V, 8.5Kw	500013
LIFT MOTOR	500513
TEMPERATURE PROBE	501465
MERCURY RELAY	63920
THERMOSTAT, HI-LIMIT	66663
GASKET KIT, ELEMENT	66863

Wells Manufacturing Company, Service Parts Department
2 Erik Circle, P. O. Box 280
Verdi, NV 89439
phone: (775) 345-0444 Ext. 504 fax: (888) 492-2783

NOTES

IMPORTANT: WELLS MANUFACTURING PROPRIETARY INFORMATION. DISSEMINATION OF THIS INFORMATION TO ANYONE OTHER THAN WELLS AUTHORIZED SERVICE AGENTS IS STRICTLY PROHIBITED. TECHNICAL CONTENT OF THIS MANUAL IS DESIGNED FOR USE BY QUALIFIED PROFESSIONAL TECHNICIANS ONLY.

WELLS MANUFACTURING COMPANY
2 ERIK CIRCLE, P. O. Box 280
Verdi, NV 89439
Service Parts Dept. (888) 492-2782
fax: (888) 492-2783
service@wellsbloomfield.com